2: Gourou--407 N-5 (1939 ?) 1945 Laotians
251, 262

The padec fish paste prepared by the Laotians on the banks of the Mekong has characteristics comparable to those of prahoc.

10: d'Orleans--281 T-3 (1891-92) 1894 Laos
116, 262, 563 Ethnic subgroups

"Watching our boatmen [LSS: Kha boatmen in the service of a Laotian] would be sufficient to occupy us, for they are a very interesting study; their chief pre-occupation is to point out some game to us, and with this aim they search the banks with their eyes. The steersman seems particularly fond of hunting, and he is doubly keen upon it now, for he has all the men to feed, so he is not at all sorry to give them some monkey flesh or a few birds, which do not cost him anything."

10: d'Orleans--281-282 T-3 (1891-92) 1894 Laos
116, 262, 522, 563 Ethnic subgroups

"Our men, [LSS: Kha boatmen in the service of a Laotian] have one resource, which I cannot make up my mind to try; they have picked up a kind of cricket on the banks, and after amusing themselves by making it chirp as they hold it between [282] two fingers, they throw it into the saucepan, and eat it stewed."

10: d'Orleans--322 [3] T-3 (1891-92) 1894 Laos
116, 222, 262

[LSS: in Luang Prabang] "We notice, on the sand-banks near the water, rows of poles, which women, with baskets passed through their arms, come to inspect, and apparently to wipe at frequent intervals. This excites our curiosity, and when we get closer, we find that these poles are done over with glue to catch the grasshoppers which alight upon them, and which are sold in the market as a staple article of food."

10: d'Orleans--345 T-3 (1891-92) 1894 Laos
116, 231, 252, 262, 527

[LSS: During the New Year celebration in Luang Prabang.]

"I notice also some iguanas, the flesh of which is said to be excellent, but they are so quick in their movements that they can only be caught by dogs trained to the work. Flowers, including piles of gardenias picked in the gardens, four varieties of orchid and red and white flowers from different trees, are also bought in large quantities for the decoration of the pagodas, and at the stalls set up in the open is sold vermicelli cooked with grasshoppers, a small bag made out of banana leaves answering the purpose of a cup."

10: d'Orleans--368 T-3 (1891-92) 1894 Laos
116, 241, 262, 438

"... The village of Muong Liep (Diap on the map), once important, now possesses only a few houses. The gardens are full of fruit trees, cocoa trees, areca nut trees, oranges, bananas, and the mak tan la late, (1) which are eaten with a spoon.

1. In French, cœur-de-bœuf.

We cannot buy any rice, the inhabitants having very little. They got it from Nam Ou, or certain villages especially given to its growth."

23: Franck--318-319 T-2 (1924) 1926 Laotians-1-2
116, 262, 643

"He was received like any other invited luncheon guest, though he was always addressed as Majesté by the commissaire and his well chosen wife, and the half-dozen French functionaries they had been able to scrape together in the kingdom. In lieu of a box of chocolates his Majesty had sent ahead some Laosian food that is served as dessert at the royal table. One dish was a kind of custard cooked in small cocoanuts, the base of the husk cut down to resemble the shank of a goblet, and preserving the cocoanut taste. Another was a kind of vermicelli covered with nut dust, not unlike a similar dish in China. The ordinary people do not indulge in such delicacies, which are reserved for the royal palace. Even there, according to my hostess, there are few changes of menu. The king was well versed in Western table manners, though he did not take a very active part in the conversation, which of course was in French. He showed up best as a sympathetic listener, and was easily amused. In so far as my own almost unknown country was concerned, he seemed to be particularly interested in the Mormons and in what the French call the régime sec. He laughed for some time in his merry yet kingly way when told that Brigham Young had forty wives and a correspond-[319]ing number of children, apparently without seeing any connection between this and his own fifteen and forty respectively. Or it may be that he was laughing at the plight of Brigham from the vantage-point of his own experience. The régime sec, in other words,

prohibition, he plainly did not understand at all, any more than does the average Frenchman, and there was nothing to be gained in trying to make clear the American point of view on the subject. He would of course have been horrified to learn that there are persons in that benighted wineless land from which I came who have never heard of his ancient kingdom; nor did I feel it quite safe to pad out the conversation by bringing up the question of silk stockings in its relation to our national economic problem, for one can never be sure just how sensitive kings may be on these very personal matters."

23: Franck--331 [2] T-2 (1924) 1926 Laotians
116, 262, 411, 415, 482 Ethnic subgroup

"These fellows [EJ: Kha] carried a slim ration of glutinous rice in little round baskets with a telescope cover, and some uncooked rice in a cloth at the back of the waist, just as do some South American Indians. At their sides hung a kind of machete, in a sheath made of half bamboo with wooden strips across it, much the sort of thing a Boy Scout turned loose in the woods might contrive. They were as small as upper grammar-school boys, and though they looked hardier than almost any tame people, they were really even less useful as carriers than the Pwun. They prefer to carry by a band across the forehead, but as my baggage was not arranged for that method most of them were forced to endure one end of the stiff whole-bamboo that takes the place of the wiser springy split-bamboo or hickory carrying-poles of the Chinese--because one of them alone cannot carry a real load. Yet on the whole the long file of silent, rather anemic fellows made better time, thanks perhaps to their lighter loads, than those of the day before."

25: Brodrick--101 [2] S-3 (1939) 1948 Laotians
116, 262, 272, 342, 352

"[HD: The Laotian's] bamboo house on stumpy piles costs nothing to make. He has no furniture, no chairs, no tables. He sleeps on a mat. There may be a few bowls in his hut, but most of the meal is served on palm-leaves. His food is simple--rice, salt fish in brine, raw pork chopped up and smothered in a pungent, aromatic sauce, cakes of rice and bananas (and delicious they are), and he eats iguanas, alligator's eggs and red ants.

When he is not swigging lao, or rice-alcohol, he drinks water and uses tea--Laotian tea is poor stuff--as we did until a few generations ago, as medicine."

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region.

At the beginning of the rainy season and of the dry season it will be well to wear a cholera-belt, especially at night.

In northern Laos garments of cloth suiting may be worn in the morning and evening during the mixed half-season.

Woolen clothing is also very good, even in the hot season after sundown, for persons who can stand it.

As protective headgear against the sun one should wear the colonial helmet or else the various types of hats made of Indian "saja" pith, cork, elder or rubber. One should provide oneself with a parasol if one fears overexposure to the sun.

Before sunrise and after sunset any kind of headgear will do, and in winter when the sky is clouded over a felt or straw hat is sufficient for the whole day.

In the matter of shoes one should consult one's own need and wear heavy ones or light ones, made of leather or cloth, as one wishes. For walking trips and traveling on horseback one needs waterproof shoes with iron cleats. Above the latter one should wear soft woolen puttees, which are quite superior to leather boots, leggings or gaiters, whatever the advantages of the latter.

One's diet in Laos should consist almost exclusively of the local staples and produce to which should be added, during six months of the year, the produce of a vegetable garden planted with European vegetables. The rest of the time one may content oneself with the native vegetables, which are less varied, to be sure, but which can be grown during the rainy season.

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[119] Beef, pork, goat meat, rabbit meat, venison, fish, poultry, chickens and ducks, geese and guinea fowl, etc. provide, together with eggs, the main elements in the diet, especially if garden produce be added. It is well to use canned food only when one cannot do otherwise.

One very important question which should not be neglected is the making of bread. Faulty workmanship, the use of spoiled flour or of poor quality leaven are, in fact, the often unknown causes of most stomach disorders. The ideal thing would be to replace bread completely with local rice either steam-cooked and eaten as it is, or else pressed into cakes.

Experience has shown that Europeans living in tropical regions stay healthier when they use only native produce and approach the native diet as closely as possible, which is based on rice and maize.

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It is thus that the Missionaries, for example, whose resources are extremely limited and do not enable them to use imported foodstuffs, remain in the land for many long years without any great damage to their health. It goes without saying that one should avoid overindulgence in food, and especially in alcoholic beverages. Drinking iced tea at and between meals gives excellent results, but then it is well to take a small quantity of pure wine. Coffee is an indispensable tonic and stimulant for aiding digestion and fighting off the heaviness which generally manifests itself after meals.

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One should avoid long siestas immediately after the noonday meal. Newcomers will do well not to succomb to this damaging habit, which slows digestion, softens the organism and in the long run robs the brain of its lucidity and vigor. It is preferable to move about a bit immediately after meals on the verandas or in the rooms of the house. Billiards provide excellent exercise in this case.

Around two o'clock, when digestion is complete and before business is resumed, a cold shower is extremely hygienic. [120] According to one's tastes and temperament one may take a shower bath, pour water over oneself with the help of a basin held in the hand, or bathe in a tub with a large sponge.

In the evening after sunset it is well to take a little exercise in the form of horseback riding, bicycling, tennis, etc. But one should avoid going too far and becoming tired, since all that is needed is enough effort to maintain the suppleness and elasticity of the muscles. After such exercise one should take a quick shower or tub bath, then, if desired, a small glass of generous or tonic wine such as quinquina, cola, coca, Déiles wine, etc.

One should avoid all the so-called alcoholic aperitifs, which necessitate the use of a great deal of water and ice, for they cause overabundant perspiration and, by filling the stomach, retard the secretion of the gastric juices. It is precisely this secretion which gives the sensation of appetite.

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In the matter of general preventive hygiene, a great many persons will do well to follow the regimen outlined below. Every day one should take a few centigrams of salts of quinine, hydrobromide, bihydrobromide, sulfate, etc. If excessive fatigue is anticipated as a consequence of prolonged exposure to the sun, a long march or a stay in the forest, one should take a larger dose of quinine. The dose may be as large, depending on temperament and experience, as one gram for the sulphate and fifty centigrams for the hydrobromide.

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who work gold mines--and by the inhabitants of several regions, whose state of fortune would nevertheless enable them to use a more precious metal.

Jewelry and examples of the goldsmith's art are found in different forms and types which vary greatly with the region and race, as will be seen by the nomenclature given in Chapter IX.

262

Food. The Laotian scorns the pleasures of the table, and is generally a moderate eater and drinker. Steam-cooked glutinous rice forms the basis of his food supply. To this he adds salt, peppers, various other spices, fresh or preserved fish, etc. Besides these, but less frequently, his day-to-day diet may be varied with poultry, eggs, buffalo meat, beef and pork, as well as venison. To be sure, it is mainly on the occasion of public or private festivals, which are fairly numerous in the course of the year, that the Laotian improves on his usual rather frugal fare in this way.

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The customary beverage is water which may be taken directly from the rivers or first be hastily decanted into jars or water-coolers of porous earthenware. In general, Laotians prefer water taken directly from the river to that which has been filtered. Finally, the people of Laos consume rice brandy which is obtained by distillation, and a kind of beer made by cold fermentation of rice mixed with paddy husks.

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The use of these drinks, aside from rare exceptions, is reserved for holidays.

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Physical appearance, character, occupations. The Laotian's character is, in general, mild, friendly and happy. His physiognomy is [181] open and smiling. Not quarrelsome by nature, he even shrinks from coming to blows in extreme cases and prefers to end a dispute with an outburst of laughter rather than with blows.

Since, all in all, it has few needs and inhabits a land with luxuriant vegetation which is abundantly favored with products to be had for the scavenging, this happy people can easily satisfy its needs and be content with its fate. [Illustration alongside text here.]

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It is assuredly lazy, but out of indifference much rather than out of any deliberate intent. It cannot grasp the advantage or utility of a regular and prolonged effort beyond what is strictly necessary to provide it with a living and a few distractions to which, in reality, its own joyous disposition makes the greatest contribution.

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To the men are reserved the chief tasks, which have a more virile and noble character than those which are the women's lot.

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Tribal Tai

291 the Deng-Thais, is applied to the edges of the gown. It is further
563 ornamented [233] on the outside edge opposite the buttonholes with colored silk embroidery which does not go down below the waist.

This garment is also folded in half lengthwise and worn rolled around the body with the sleeves left hanging.

302 The women wear their hair parted down the middle in front
301 and rolled into a sort of long tassel behind which is contained within the folds of a little turban. The latter is wound above the forehead and the free end inserted under the first turn, on the nape of the neck. This headdress is quite similar to that of the Annamite women in Tonkin.

In certain regions of Laos, Thai women wind their hair into a sort of coil which girls wear loosely down their neck and betrothed or married women wear on top of the head. Thai jewelry is made of heavy silver and is of the same type as Laotian jewelry. The men wear bracelets on their wrists.

262 Food. The Thai diet is like that of the Laotians, but they prefer
264 non-glutinous white rice and use chopsticks like the Chinese and Annamites.

276 The use of betel is quite widespread among the Thais, but in contrast to the Laotians they keep their teeth white. The Thais smoke the oily, opiated tobacco of Tonkin and China in bamboo waterpipes whose tiny bowls only contain a small pinch of tobacco. They also smoke a local variety of tobacco, either in cigarettes or in pipes with a highly worked clay bowl into which a long stem ending in a glass or jade mouthpiece is inserted.

156 Character. Although serious and reflective, the Thais have a vivacious and friendly character. They are somewhat cold in appearance, but are sound friends and highly affable when one gets to know them better.

[701] Gentler and more timid than the Laotians, they have no taste for the art of war and it is difficult to get them to stay in the native militia.

433 They are very self-seeking and much more miserly than the Lao-
438 tians. [234] It should be noted, moreover, that since they produce
156 everything themselves and are a people of farmers and livestock breeders, they do not have, by virtue of their ever sedentary occupations, the opportunities which these latter have to enjoy fairly high profits resulting from commercial transactions, nor the special habits which contact with different races gives.

181 The Thais love pleasure and celebrations. Guaranteed their daily
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149: Reinach--184 G-8 (no date) 1901 AM1 Indochina
Laotians AM8
Kha

291 Men's clothing consists of a jacket and pair of trousers which have the same shape as those of the Lus and are made of coarse cotton cloth manufactured locally. Their headgear is a turban cut from a piece of Turkey-red cotton.

For work, clothing is generally reduced to a narrow strip of cloth forming a belt, one of the ends of which is passed between the legs and fastened in the middle of the back.

During the cold season a jacket is added to this loin-cloth.

The women wear a skirt of the Laotian type which is fastened under the armpits so that it does not come down below the calves of the legs. A short jacket completes their costume. On their head they wear a turban which is generally dark in color. [Illustration alongside text here]

301 Jewelry. Both sexes have silver or copper jewelry such as wide stiff neckbands, bracelets, rings, buttons, clasps, etc. Like the Lus and the Youns, the Khas pierce the lobes of their ears. Often the holes are of such dimensions that a roll of leaves or a bouquet of flowers can be inserted in them.

262 Food. Their diet is very like that of the Laotians and Thais. When there is a shortage of rice its place is taken, until the following harvest, by yams, taros, bamboo sprouts, banana flowers, etc.

462 Occupations. Women and children are given the hardest tasks imaginable, and it is unusual to meet them without baskets on their backs. The men carry only their bag, their sword, their rifle and their pipe.

595 Marriage. Divorce. Adultery. Polygamy is widespread among the Khas, and the number of wives a man possesses is the sign of his wealth. For, regarded as they are rather like beasts of burden and working constantly, the more numerous these wives are the more they will produce.

584 [254] The rules for marriage preliminaries closely resemble the Laotian customs and the ceremony itself, although much less splendid, comprises the same rites. To be sure, the role of the bonzes is filled here by "Pho-Tao," that is to say elders or sorcerers.

586 Divorce may be requested by the wife, or one of the wives, for personal reasons. It may also take place by mutual consent. Finally,
684 it is compulsory in the case of adultery, since the guilty woman must marry her accomplice.

Contrary to what is the case elsewhere, adultery on the part of the husband is punished by a double fine awarded to his wife's family

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386 when mixed with curcuma. The trees are found in the forest, and sometimes in gardens.

10. Yams.

262 The yam is an edible tubercle of the Dioscorea family. It is
241 represented by two varieties, the white and the black, which are called "Mane-Phuek-Khao" and "Mane-Phuek-Dam" in Laotian. These tubercles are the main standby when there is a scarcity of rice and [335] maize, but in ordinary times they are used only to supplement the usual diet.

11. Taro or cush-cush (Mane-Pa).

Taro is also a food plant of the Aroïdées caladiées genus (Caladium esculentum). Like the yam, it is one of the most useful edible tubercles in times of famine.

12. Medicinal plants.

824 Designated by the generic name "Ya" in Laotian, these plants
278 are represented by special types of orchids, roots, bark, berries, leaves and even pieces of wood of different kinds, the whole forming an assortment of medicaments.

[438] The Khas are the ones who collect these various products from the depths of the forests, and they trade them either to Chinese or to Laotians for money or other goods.

[435] Certain of these plants and barks are used by the Laotians while others, such as the leaves from orchid plants, for example, are purchased by Chinese merchants at prices which vary between 33 and 62 francs per hundred kilograms.

13. Cloves.

The clove tree (Caryophyllus aromaticus. Kane-Phou in Laotian) is quite scarce in Laos. Cloves are mixed with various ingredients in masticatories or are taken as medicine.

Cultivation of the clove tree ought to be developed in Laos because of the high value of its flowers which, when dried on the tree, constitute the cloves of commerce.

14. Beeswax (Phung).

222 Beeswax is much sought-after in Laos, where a great deal of it is
[231] consumed. It is a scavenging product par excellence since, except in
314 the Sib-Song-Pahn-Na, the inhabitants do not practice apiculture and are content to go into the forest and look for honeycombs in order to extract the wax. The latter is used for domestic needs and for worship
[438] ceremonies. It also forms the basis of quite an important trade.

149: Reinach--247 G-3 (no date) 1901 AM1 Indochina
Laotians AM8

"What makes everything easy and is used for everything is this hollow wood, at once so solid and so light, the incomparable bamboo. In France we see it only in the form of pleasant but useless little articles of furniture. Here bamboo is sufficient to every task. It provides the whole house, frame as well as walls. The inner walls and floors are made of matted bamboo lathwork. Yet such a house, with its furniture, bed, tables, various accessories and its luxury objects, if you are a person of refinement, can be improvised for you in a space of two hours wherever you want.

"Has a bridge been washed out? In two hours, thanks to this wood which is easy to manage and to work, men will have made a new bridge. One is especially struck, at the beginning of this life which is so free and, more than any other, independent of men and things, by the great simplicity and ingenuity of all the procedures. Objects are rudimentary but practical, easy to make, soon ready and simple to repair. Everyone knows how to build ordinary furnishings, and no interruptions are caused here as they are when even the slightest damage occurs to one of our highly developed utensils, which only a specialist knows how to repair.

"A bamboo tube is a safe place for your maps and papers. It is a drinking glass, and it is also a pipe for smokers. On a larger scale, it is a bucket for carrying water, and the receptacle for all liquid and solid provisions. When provided with a handle it serves as a pot for the Laotians to cook their rice in, or to prepare syrup from the sugar palm. When torn into thongs it is used as rope and string. Ligatures of sapeks are threaded on kelates, or bamboo filaments, and this is what makes our new Indo-Chinese sou, with its round hole in the middle, so impractical. Those who preside over the striking of our coins are unaware that the kelate is square, a fact which the first comer from the interior could have told them. Baskets of all kinds are made with these same kelates for holding and transporting material. Hats are also made of them to provide shelter from the sun and rain. At night, when the stage of your journey is too long and you have to continue after nightfall even at the risk of meeting a tiger, setting fire to a bamboo branch is enough to frighten any off and to light your way. And not only is bamboo used to make torches, hats, string, dishes, furniture, houses and bridges, but it also serves as animal fodder and even as food for the natives, who eat the tenderest shoots as we would eat asparagus.

Hunting

224 Hunting, for the inhabitants of Laos, is another form of scavenging, since it procures them either live animals or the remains of the same without any great labor or expense.

411 For the Laotian, time does not count. He makes his powder himself, and with the exception of firearms his hunting devices are also
224 of his own fabrication. With the help of this far from perfect equipment he is nevertheless able to capture live elephants and to procure the ivory and remains of those which he kills, as well as the hide, talons, bones and horns of a multitude of other animals. All these products are so many trade commodities for him. The flesh of all these animals, moreover, makes a sizeable contribution to the diet of the Laotian hunter. It is a feast for him, for his family and for his entourage.

[325] [344] The natives have a perfect knowledge of the habits and customs of all the representatives of the local fauna. Patient, adroit, endowed with excellent powers of hearing and sight which are further developed and sharpened by practice, they are not afraid to attack the tiger and other large animals despite their rudimentary weapons.

Lying hidden for hours at a time, motionless and silent and abstaining from smoking, the hunter waits for his victim without losing his self-control. When it approaches within a few meters of him, his sure eye and untrembling arm enable him to strike it dead with a bullet or with a poisoned arrow shot from a powerful crossbow.

One is astounded at the results achieved with weapons which are so imperfect, as much by their rudimentary construction as by their age, and which often lead one to fear more for the hunter's life than for the beast's. We must admire these men who, although reputed to be cowardly, brave danger with such primitive weapons and go in search of wild animals in their very lairs, killing them at almost point-blank range so that oftentimes the wad from the gun singes the animal's fur or the arrow goes in one side and out the other.

411 The firearms used by the Laotians are flintlock or muzzle-loading
439 rifles, some of which are of Siamese or Burmese manufacture. Others are imported from Europe through trade or in private cargoes. There are also old regulation rifles, British and others, chiefly those which bear the image of a cock and the word "Tower" stamped on the lock or breech.

226 A few varieties of fish in the Mekong go down to the sea at certain periods, then return to the great river and go up it for more than two thousand kilometers to an altitude of four hundred meters. Enormous rays are caught which are as much as four meters long from head to tail, and fish similar to the whiting, the mackerel, the sardine, the tuna, the sole and the limanda are found, almost all of which have retained a sea fish taste despite the distance.

The kings of the Mekong, in respect to size and weight, are the Pa-Beuk, [351] the Pa-Leum, the Pa-Sa-Ho, the Pa-Kheung, the Pa-Kai and the Pa-Khoun, which vary in weight from 35 to 200 kilograms. The Pa-Beuk and the Pa-Leum have characteristic habits, in that the first of these works its way up to points between Vien-Tiane at Luang-Prabang at a distance of 2,000 kilometers from the sea, and the second comes up beyond Xieng-Khong, or more than 2,600 kilometers upriver. The two points on the Mekong where, from the middle of February to the middle of March, the Pa-Beuk gather at [Illustration here] spawning time are, first, a point slightly downstream from Ban-Sam-Pan-Na (above Vien-Tiane), exactly at the Keng-Hang, and, second, a little below Pak-Lay at the Nong-Kec. These spots, where the fish choose to stay, are depressions in the rocky bed of the river, generally between small islands, where there are still 18 to 25 meters of water at low water time.

Hundreds of pirogues gather in these regions (1) and within [352]

(1) On the Lower Mekong the "Pa-Phon" (alosa) is fished for in the same way as it goes upriver (January) and downriver (October),

a few days the fishermen take a great number of Pa-Beuk weighing, on the average, from 120 to 200 kilograms. The number of fish caught varies from year to year, sometimes doubling from one year to the next. In the last few years the average has been between 60 and 130 Pa-Beuk, representing approximately 12 to 25 tons of fish. They may be eaten fresh or preserved.

226 The meat of the Pa-Beuk is separated into slices in the form of long strips which are put out to dry in the sun. Its eggs, which form two enormous masses weighing nearly ten kilograms, are used to make a kind of caviar which is highly esteemed in the land.

The meat of the other large varieties of fish is used to make various preserves, the chief of which are:

"Pa-Ka-Deng," composed of medium-sized or small fish which have been salted, dried and smoked.

"Pa-Niang," formed of slices from a large fish which have been smoked.

"Pa-Heng," or a small dried fish.

"Pa-Khem" corresponds fairly closely to our salted and dried fish of the sardine type known as Nantes, which are left in salt for only a few days.

Finally, "Pa-Dek" is the form in which most of the large varieties of fish are preserved, and is an almost indispensable part of the native food supply. To prepare Pa-Dek the meat is cut into small pieces and ground in a mortar with salt and pepper so as to produce a kind of paste which is then put in jars with salt. The resulting brine helps to preserve the product (1).

(1) The price of Pa-Dek varies between 18 and 25 francs per hundred kilograms. This is the "Mam" of the Annamites.

The price of fish is subject to fluctuations, depending on the scarcity of it. The large fish of which we have just been speaking sell at prices between one and forty francs, depending on their weight and their abundance on the market.

Eels, shrimp of the prawn type and crabs are also found in the ponds and rivers of Laos during the rainy season, and in the water-courses there are various edible shellfish [353] such as the river mussel and small winkle. The ponds and swamps shelter several varieties of frogs, some of which reach an enormous size. All of them are edible, and are caught with a red ribbon on the end of a line fastened to a long bamboo pole.

II

PRESENT-DAY CROPS

Together with an enumeration of the crops grown in Laos we should like to be able to give the area which each occupies and the cultivable surfaces with the nature of the soil and the type of crops which would be suited to them, but as the Superior Resident states in his report for 1899:

"We have been in the colony for too short a time to have been able to set up a cadastral registry service. In view of the large area of the territory (267,000 square kilometers), the small and sparse population which inhabits it (2,7 inhabitants per square kilometer in

241 Lower Laos and 1.1 inhabitant in Upper Laos), the considerable expense
311 which the establishment of a registry would involve, and the slight interest attached to such a measure in a land where our advantage lies in exercising only an indirect administration, it is impossible for me to reply in any precise fashion.

"All that I can say is that the area of cultivable land is about 80,000 square kilometers, and that it is very unevenly distributed.
[312] The southern part of the possession does offer a certain number of vast plains which are well irrigated or can be irrigated and which are admirably suited to agriculture.

"The northern part, on the other hand, is almost exclusively made up of a series of juxtaposed mountain masses in a nearly unbroken line which leaves only an insignificant place for the rare valleys and plateaus satisfying the conditions required by agriculture.

"The area of cultivated land may be estimated arbitrarily at 30,000 square kilometers, distributed as follows:
Southern Laos, 20,000 square kilometers.
Northern Laos, 10,000 square kilometers.
} Giving about 15 inhabitants per cultivated square kilometer."

In the preceding chapter we gave a list of the plants which compose the flora of Laos. We shall supplement it here by studying those which are grown as regular crops.

243 RICE. Rice, being the basic food of the Laotians, occupies first place among the country's crops.

Two varieties of rice are grown in Laos, glutinous rice or "Nep" (in Annamite) which is called "Khao-Niaou" in Laotian, and dry rice or "Khao-Tiao" which is known in trade as Cochinchina white rice.

The first is more nourishing and contains a higher percentage of starchy matter. Because of its particular qualities, it is the type most widely cultivated for food and for the manufacture of alcohol.

Dry rice or "Khao-Tiao" is also cultivated, but in smaller quantities. It is primarily used for making pastry and for food by inhabitants of certain races which do not eat glutinous rice.

[554] Persons of a certain standing even go so far as to eat only "Khao-
● 262] Tiao" out of ostentation.

Glutinous rice is grown in plains ricefields as well as in terraced ricefields on hillsides and in "Rais" or temporary clearings in the mountains.

149: Reinach-260 G-3 (no date) 1901 AM1 Indochina
Laotians AM8

Dry rice may be grown in the plains, but is generally cultivated in mountain rais, for the peoples who consume it are settled in the highlands. Indeed, the Khas are the ones who mainly practice its cultivation. The ratio of total dry rice production to that of glutinous rice is about one to four. 243

It is difficult to give any official figures, even approximate ones --for the reasons given above--regarding the total quantity of rice, whether the year be a good or bad one, which Laos produces. It differs, moreover, from one year to the next because of meteorological variations and also because of the damaging epizootic diseases which recur periodically, decimating the farming animals and forcing the inhabitants to reduce the area of their plantings. [231]

[355] One can, however, given the amount necessary for the subsistence of a family of five, deduce the approximate weight of rice which is indispensable for feeding any given group of people. 262 146

It is estimated that the average yearly consumption by a family of five is 28 piculs of paddy (1,700 kilograms), which yield about 17 piculs of threshed rice (1,026 kilograms). 243

Now the total population of Laos, which is estimated at 470,000, will normally contain 94,000 families of five, or groupings of five individuals of all ages and both sexes. On this basis it is easy to calculate that the amount of paddy needed to feed these 94,000 groups will be 2,632,000 piculs (159,800,000 kilograms) of paddy and 1,598,000 piculs (96,440,000 kilograms) of threshed rice.

In addition to this indispensable minimum merely for feeding the inhabitants, other quantities of rice are also necessary: 1) For fodder for certain animals and for making alcohol, pastry, etc., a consumption figure which we estimate at one-fifth of the above figure, or 526,400 piculs of paddy (31,794,560 kilograms) or 319,600 piculs of threshed rice (19,308,840 kilograms); 2) For seed and emergency reserves. These latter may be calculated at the rate of 5 piculs of paddy per house or per family of five, and require about 600,000 piculs of paddy (36,240,000 kilograms). 243 262 273

In recapitulation, it is clear that the amount of paddy which Laos ought to produce for food for its inhabitants, fodder for certain animals, the manufacture of alcohol, miscellaneous uses, seed and reserves is some 3,758,000 to 3,800,000 piculs or 226,983 to 229,520 tons, giving an average ratio of 1) 485 kilograms or 8 piculs of paddy per inhabitant; or 2) 2,425 kilograms or 40 piculs per family.

243 In reality, this is neither always nor everywhere the case. There
• 262 are bad years when, because of a shortage of water, production in the ricefields falls by 30 or 40 percent, and the natives are then obliged to turn for their food to the roots, yams and taros which they find in the forest.

[311] [356] It is the northern part of Laos which mainly suffers from this sad state of things, as a result of its hydrological régime, the particular disposition of its farming land, and the fragmentation of the latter into relatively small plots which are remote from one another.

312 In southern Laos the vaster plains and a more complete natural
[439] irrigation which can easily be increased as the need arises make it possible not only to satisfy local needs but also to provide paddy and threshed rice for export. Thus in 1898 900 tons of paddy were exported to Cambodia and Cochinchina (1).

(1) These exports, which seem rather slight, will certainly increase provided that crops are good.

243 Here, by way of indication, are some current prices per hundred
439 kilograms of paddy and decorticated rice:

Northern Laos	Paddy	4 francs 10 centimes to 9 francs
	Rice	8 francs 30 centimes to 10 francs 60 centimes
Southern Laos	Paddy	1 franc 65 centimes to 3 francs
	Rice	8 francs 30 centimes to 12 francs 50 centimes

243 In the figures given above as representing the amount of cereal grains needed to feed the population, we should include a certain quantity of maize. We do not have sufficient information to be able to show its importance with respect to the total production of cereals and consequently to say by how many tons the total figure for the paddy crop ought to be reduced in order for this difference to be applied to maize.

Nevertheless, if we take as a basis the total number of inhabitants who grow this crop, we may estimate that in northern Laos the ratio of maize production to that of paddy is about one to five. In southern Laos this crop is much less extensive.

248 There are three harvests each year. In the first the shoots are .9 meter high, in the second 1.4 meters and in the third 1.6 meters. They yield, respectively, for an area of 14 square meters, 18, 20 and 24 kilograms of fiber.

At harvest time the shrub is split and left to soak in water for three hours, for the fiber is difficult to tear off. The work of decortication takes a long time, and this drawback has so far prevented the cultivation of this crop from spreading although it is an easy one on the whole and not at all exhausting for the soil, since it is possible to grow it twenty years in succession on the same plot of ground.

438 Exports from the provinces of southern Laos were more than fifty
248 tons in 1899. A great deal is used locally, since all the nets used for hunting and fishing are made with this fiber.

Prices are as follows (1):

248 (1) In view of the price at Bassac (37 francs), it would be ad-
435 vantageous to export this product to Cambodia, where it sells for twice as much.

	Per hundred kilograms
Plateau of the Bolovens	25 to 35 francs
Bassac	37 "
Saravane	60 "
Khong	60 to 80 "
Attopeu	30 "
Stung-Treng	54 to 62 "
Pnom-Penh	60 to 80 "

248 [367] HEMP. Hemp is grown in Upper Laos, but only for local consumption. It is used in making string, light rope, nets, etc. A very strong and fairly good-tasting alcohol is also extracted from its seeds. It is called "Pane" or "Nhia-Pane."

241 BATATAS. Various kinds of batatas which are more or less sweet
[262 are grown each year on the banks of the watercourses and in the still
231] moist sandy alluvia. These tubercles are chiefly consumed by the inhabitants, although small quantities are used to fatten certain animals, particularly pigs. The large variety of batata which is round and not very sweet is called "Mane-Phao" and the one which is elongated and sweeter is called "Mane-Keo."

231 654 It is much to be desired that the work of our physiologists may finally be successful and place at the disposal of everyone serums which will be capable of fighting the epizootic diseases which are decimating horned animals. In the meantime our administrators can only recommend to the natives a few rules of veterinary hygiene, a feeble protective measure against the epidemic. They should be particularly careful to see that dead carcasses are not thrown into watercourses.

231 492 262 825 Oxen. In Laos, oxen are raised mainly for use in transport or for export as animals for slaughtering. In the far north they are also harnessed to carts.

The Laotians have an instinctive repugnance for beef meat, and eat it only when an animal dies by accident or has to be killed as the result of a wound or broken bone. There are even certain prejudices and certain customs in this matter, which are doubtless vestiges of another age when the ancestors of the present-day inhabitants were pastoral people among whom slaughtering [404] oxen for food was prohibited under penalty of a fine.

231 Whereas the buffalo in Laos are sturdy and of a fine height, the oxen often leave much to be desired. This is due to the fact that the natives raise oxen as they do buffalo, that is to say by leaving it to forage for itself. Although the buffalo, a hardy and autochthonous animal, requires almost no care in breeding, the ox, which is a cross-bred animal, imported and not so tough, requires a great deal of care and management. But when ox raising is treated like buffalo raising, the result is an inferior product and thence a progressive degeneration of the breed.

The Youns, the Lus and the Burmese are the only ones who have a complete mastery of raising oxen as draft and pack animals, and who produce individuals of comparatively tall stature which are sturdy, courageous and resistant to fatigue. They are even able, thanks to suitable treatment and care, to condition and train the often puny specimens which they sometimes go great distances to buy, even into southern Laos.

231 439 The oxen of Song-Khone (1) and of the Kham-Thong-Niai-Saravane region are destined mainly to be sold for meat in Cambodia and in Cochinchina, and this is quite a lucrative trade.

(1) In 1898 the presence of about 1,500 oxen and cattle was reported in this province.

231 178 Attopeu; slopes of the plateau of the Bolovens; plains of the Se-Kampho and of the Se-Pien (2); plains of the upper Sebang-Khan and of the

(2) I have never crossed these great and beautiful plains which stretch as far as the eye can see between these two rivers which have water all year long, intersected here and there by wooded hills whose slopes provide the herds with a refuge and with a guaranteed food supply during the inundation of the lowlands--an inundation lasting three or four months--without regretting that no European colonist has ever thought of taking advantage of this situation. (Report of the Superior Commandant of Lower Laos, April 1897.)

Ia-Drang.

231 435 The sale prices for buffalo and oxen vary from one point to another and are also subject to fluctuations due to the age, stature, abundance or scarcity of the stock, the law of supply and demand, etc.

In 1899 livestock exports from Lower Laos only were 2,184 oxen valued at 54,600 francs, 362 cows valued at 5,430 francs and 3,144 buffalo valued at 235,800 francs, or a total of 6,690 head with a value of 295,830 francs.

In Lower Laos buffalo sold for from 50 to 112 francs in 1899, and oxen for from 20 to 30 francs. In Upper Laos the prices for [406] buffalo varied from 60 to 110 francs. Oxen may cost more or less there, depending on whether they are trained as draft and pack animals or fattened for export. In the first case they bring from 40 to 70 francs and in the second from 10 to 15 francs.

231 262 Pigs. Pigs are used mainly for food by the natives, who consume a great many. The meat of this animal enjoys great favor among the population, and it is pork which, prepared either alone or with fish, enters most often into the composition of meals. [Illustration here]

[563] The Lus, the Meos, the Chinese and the Khas are past masters at raising pigs, and their stock might figure successfully in our regional competitions. They fatten them in closed compartments, after first castrating them.

231 The most common variety is the one known as "Cochinchinese or Tonkinese pig." It is gray with white spots and sometimes almost black, and bears on its back a mane of long, stiff bristles similar to those of the wild boar. Even when domesticated these pigs have

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[262]

Tamlung-Si-Bate	1/1000 picul or	0.061924	kilogram
Khanane-Lao (daily ration)	1/100 picul or	0.61924	"
Khanane-Khao	1/10 picul or	6.19245	kilograms
Boung-Koite (or Mune)	2/10 picul or	12.3849	"
Bok-Noi	3/10 picul or	18.5873	"
Bok-Niai (one man's load)	4/10 picul or	24.7698	"

[482]

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Coins and measurements of weight for silver

1. Sub-multiples of the Bak (or Salung) 1 Fuang=0.001876 kilogram
2. Multiples of the Bak (or Salung)

1 Bak or 2 Fuangs	=0.003753	"
Tep (Rupee) or 3 Baks	=0.011259	"
Bate (Tical) or 4 Baks	=0.015012	"
Piaster (Mane or Kib) or 7 Baks	=0.026271	"
Tael (Bia) or 10 Baks	=0.03753	"
Barre (Hang or Khane) or 10 Bias or 100 Baks	=0.3753	"
Sang or Cattie (silver pound) or 33 Bias or 330 Baks	=1.23849 kilograms	

805 [412] Measures of length for cloth, wood, etc.

		meters
1 Niou (finger breadth)	or 1/96 Fathom	=0.01895
1 Kam (closed fist) or 6 Nious	or 1/16 Fathom	=0.11375
1 Kheup (span) or 12 Nious	or 1/8 Fathom	=0.2275
1 Sok (cubit) or 2 Kheups	or 1/4 Fathom	=0.4550
1 Wa or 4 Soks or 8 Kheups	or 1 Fathom	=1.82

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1 Sok Luong (royal cubit)	or 1/4 Royal Fathom	=0.5
1 La Luong (1 Yard and a few centimeters)	or about 1/2 Royal Fathom	=1
1 Wa Luong	or 1 Royal Fathom	=2

846 Next to her the child lies in a kadong (Indochinese van). Between the mattress and the kadong lies a dagger if it is a boy, a needle with some sewing thread if it is a girl, so that later the child may become a strong and brave man or a woman skilled in domestic arts.

844 The accoucheur, who is also a sorcerer, hangs on the roof a fish-net which reaches the ground and must completely cover the bed of the woman and the kadong of the newborn child. An incantation is recited intended to protect the mother and child from the Phi Phai, the souls of women who have died in childbirth or while pregnant, and which take the form of a night bird. The sorcerer stretches a white cotton thread around the bed and the hearth which will act as a barrier to the Phi Phai, and which also has the property of preventing the mother and child from having attacks of nausea [les bourbouilles].

846 In addition to the very frequent affusions and sitz baths, the woman takes every day two or three aromatic vapor baths. Her meals taken 262 inside the fishnet consist of rice, grilled chicken or pork seasoned with grilled salt and mixed with houa kha (a kind of gingerbread). She may drink only [55] hot decoctions of the root of a wild vine which has diuretic properties.

846 During the You Kam people take turns day and night helping the family watch over the mother and child. In order to keep awake [527] they read aloud, make music, sing or play. This is the custom of the vigil, the ngan which takes place whenever there is a feast or any other event.

The You Kam finishes at the end of eight days in Lower Laos, but lasts more than twenty days in the north.

Churching of Women. A day of ceremony is chosen for the woman who is leaving her childbed (ok Kam). This ok kam always takes place in the morning. The woman takes her bath in the river, while all the accessories which have served for the kam are removed. When she returns to the house, she attends the ceremony of the Sou Khouan. After this she takes up her normal life again, although she is obliged to abstain from certain foods which are liable to bring on post partum hemorrhages. When the mother and child are in good health, these alimentary precautions are relaxed fairly soon, and by the end of the second month many of these rules 853 are broken. Laotian mothers are in the habit of giving their children, as soon as the ok kam is performed, chewed rice, seasoned with salt, wrapped in a banana leaf and warmed on hot ashes. The newborn usually stand this diet fairly well.

301 The use of these magic shirts is also known in Cambodia. The designs
262 usually consist of flowers, geometric figures, tools, flowers, vegetable
751 branches, and of animals. Sometimes pictures drawn from Buddhist iconography can be recognized.

[174] Apparently the origin of tattooing is to be found in totemism. By analyzing the Laotian tattooing designs, [63] it has been possible to
301 recognize traces of sun worship, as well as the mythological role of the dog. But at the present time Laotians seem only to value tattooing as an artistic ornament.

The Divining Rod.

787 Among the curios which the tourist looks for in Laos, the most
823 easily found is a carved bamboo cane. Immediately below the head,
825 which is often of chased silver, there is a sort of checkered diagram made up of twenty-five little squares. Below this divining diagram are found, in succession from top to bottom, a zebu, a horse, a rakshasha or ogre, a tiger, a buffalo, a deer, an elephant. These animals correspond respectively to the days of the week: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday.

It should be noted that, except for the buffalo and the deer, the others are the symbolical animals of the zodiac and correspond to the different cardinal points.

The Laotians consult these figures at different actions of their lives: choice of a wedding day, the hour for burial, etc. The diagram is used to calculate the hour, and the animals indicate the cardinal point which should be followed.

This cane is also found among the Man.

[64] THE NEW YEAR AND THE FEASTS OF THE FIFTH MONTH

521 The Laotian New Year always takes place between the 6th day
805 of the crescent moon of the 5th month and the 5th day of the crescent moon of the 6th month. The very core of the feast includes three days: the last day of the past year, the intermediate day and the New Year's day, properly so-called. The most picturesque ceremonies are those of Luang Prabang, for there tradition has been best preserved.

527 The programme of the feasts begins with a procession of royal elephants. Their heads ornamented with red and black painted designs, their drivers dressed in red tunics with yellow lapels, on their backs, the fifteen elephants go to the pagodas of Xieng Tong, Vat

the present time only the lion is kept, for apparently its role is no longer very well known. 527 825

[68] THE HARVEST FESTIVAL

This takes place after the harvest, during the first and second months, and is held in the open countryside. Its purpose is to glorify "the soul of rice." 527 243

It is not until the threshing has been completed and the rice piled up in heaps that the master of the harvest consults his neighbors and chooses with them the day of celebration. Light shelters must then be built on his field around the threshing area to accommodate the guests. On the top of the pile of paddy a sort of pulpit is erected from which the bonzes will recite their prayers.

On the morning of the feast day, the master of the house slaughters an ox from which is made the traditional lap, a dish consisting of raw meat and chopped up peppers mixed with various chopped up green vegetables the whole held together with a soup of pa dek. In the evening a court of love is held and the mo lam (professional singers) are also invited. At the end of this first night, the bonzes climb into the pulpit before daybreak to read the legend of Nang Kho Sop. [62] 527 773

"In the olden days a grain of rice was as big as a gourd. It was cut down with an axe. Then Nang Kho Sop (the soul of rice) became angry at this barbarous treatment and flew away. Since then this feast has been celebrated so that the soul will return."

The reading closes as day breaks, and offerings are made to the bonzes. At the close of the prayer, each one of the faithful, before rising, sprinkles a few drops of water on the ground so that Nang Thorani may bear witness to their alms and so that the goddess may not forget to count it among the merits he has acquired for his future lives.

[69] The owner takes a basket filled with boiled chicken, alcohol, sweet potatoes, and all kinds of tuberous roots. He goes by himself into his rice field and walks over it in every direction, at the same time calling the soul of rice to thank it for having made his fields bear fruit and to beg it to continue being equally generous to him in future years. He offers it all the food in the basket saying: Soul of Rice, here are tuberous roots for thee, here are buds of cabbage palm, and good alcohol made from thy grain. Soul of Rice, descend on us and preside over the feast I am giving in thy honor! 243 527